

Listing of Claims

1. (currently amended) A method of simulating tracer fire from a weapon (400) by means of a non-ballistic fire simulation means (200) attached thereon, comprising:

projecting a light spot (320) into a visual field (240) of a user of the weapon (400) such that the light spot (320) is observable by the user when firing at a target (310), wherein the light spot (320) indicates a non-ballistic estimation of a point of impact for a simulated bullet;

turning on the light spot (320) at a first point in time ( $t_1$ ) after triggering a simulated bullet; and

turning off the light spot (320) at a second point in time ( $t_2$ ) after triggering the simulated bullet, a switched-on interval ( $t_{ON}$ ) between the first point in time ( $t_1$ ) and the second point in time ( $t_2$ ) overlapping a laser interval ( $T_{laser}$ ) during which at least one light pulse ( $P_L$ ) is transmitted from the fire simulation means (200) to simulate the bullet fired from the weapon (400) to the target (310).

2. (currently amended) A method according to claim 1, ~~characterized by~~ wherein the first point in time ( $t_1$ ) coinciding with a point in time at which a first light pulse ( $P_L$ ) is transmitted from the fire simulation means (200).

3. (currently amended) A method according to ~~any one of the claims 1 or 2,~~ characterized by claim 1, wherein the switched-on interval ( $t_{ON}$ ) being substantially longer than the laser interval ( $T_{laser}$ ).

4. (currently amended) A method according to ~~any one of the preceding claims,~~ characterized by claim 1, wherein preventing a light spot (320) from being turned on

during an inhibiting interval ( $T_{\text{block}}$ ) after that a previous light spot (320) has been turned on ( $t_1$ ).

5. (currently amended) A method according to ~~any one of the preceding claims,~~  
~~characterized by claim 1, wherein~~ varying at least one of the first point in time ( $t_1$ ) and  
the second point in time ( $t_2$ ) according to a stochastic algorithm.

6. (currently amended) A method according to claim 5, ~~characterized by wherein~~ the  
stochastic algorithm being adapted to reflect a bullet light-up parameter of a particular  
type of tracer ammunition.

7. (currently amended) A method according to ~~any one of the preceding claims,~~  
~~characterized by claim 1, wherein~~ the estimated point of impact representing an  
endpoint (420) of a line of sight (430) from the muzzle (415) being parallel to a  
longitudinal symmetry axis of the barrel (410)

8. (currently amended) A method according to claim 7, ~~characterized by wherein~~ the  
switched-on interval ( $t_{\text{ON}}$ ) representing 1 – 20 % of an estimated time of flight ( $t_{\text{flight}}$ )  
between the muzzle (415) and the estimated point of impact for the corresponding live  
bullet

9. (currently amended) A method according to claim 8, ~~characterized by wherein~~ calcu-  
lating the estimated time of flight ( $t_{\text{flight}}$ ) by means of a non-ballistic algorithm.

10. (currently amended) A computer program directly loadable into the internal memory  
of a digital computer, comprising ~~software for accomplishing the steps of any of the~~  
~~claims 1 – 9 when said program is run on a computer.~~ program code for simulating tracer  
fire from a weapon by means of a non-ballistic fire simulation means attached thereon,

wherein the program code comprises sets of instructions for:

projecting a light spot into a visual field of a user of the weapon such that the light spot is observable by the user when firing at a target, wherein the light spot indicates a non-ballistic estimation of a point of impact for a simulated bullet;

turning on the light spot at a first point in time ( $t_1$ ) after triggering a simulated bullet; and

turning off the light spot at a second point in time ( $t_2$ ) after triggering the simulated bullet, a switched-on interval ( $t_{ON}$ ) between the first point in time ( $t_1$ ) and the second point in time ( $t_2$ ) overlapping a laser interval ( $T_{laser}$ ) during which at least one light pulse ( $P_L$ ) is transmitted from the fire simulation means to simulate the bullet fired from the weapon to the target.

11. (currently amended) ~~A computer readable medium, having a program recorded thereon, where the program is to make a computer accomplish the steps of any of the~~ claims 1—9. product in a computer readable medium having computer program code recorded thereon, wherein the program code includes sets of instructions comprising:

first computer instructions for projecting a light spot into a visual field of a user of the weapon such that the light spot is observable by the user when firing at a target, wherein the light spot indicates a non-ballistic estimation of a point of impact for a simulated bullet;

second computer instructions for turning on the light spot at a first point in time ( $t_1$ ) after triggering a simulated bullet; and

third computer instructions for turning off the light spot at a second point in time ( $t_2$ ) after triggering the simulated bullet, a switched-on interval ( $t_{ON}$ ) between the first point in time ( $t_1$ ) and the second point in time ( $t_2$ ) overlapping a laser interval ( $T_{laser}$ ) during which at least one light pulse ( $P_L$ ) is transmitted from the fire simulation means to simulate the bullet fired from the weapon to the target.

12. (currently amended) A fire simulation means (200) for simulating tracer fire to a user adapted to be attached to a weapon (400), ~~characterized in that it comprises~~ comprising:

a light projecting means (210-230) adapted to project a light spot (320) into the user's visual field (240) such that the light spot (320) is observable by the user when firing at a target (310), wherein the light spot (320) indicates a non-ballistic estimation of a point of impact for a simulated bullet, the light projecting means (210-230) being adapted to turn on the light spot (320) at a first point in time ( $t_1$ ) after triggering a simulated bullet, and turn off the light spot at a second point in time ( $t_2$ ) after triggering the simulated bullet, and

a laser unit (260) adapted to, during a laser interval ( $T_{\text{laser}}$ ) after triggering the simulated bullet, transmit at least one light pulse ( $P_L$ ) in a direction of the target (310) to simulate the fired bullet from the weapon (400) to the target (310), wherein a switched-on interval ( $t_{\text{ON}}$ ) between the first point in time ( $t_1$ ) and the second point in time ( $t_2$ ) overlaps the laser interval ( $T_{\text{laser}}$ ).

13. (currently amended) A fire simulation means (200) according to claim 12, ~~characterized in that~~ wherein the light projecting means (210-230) comprises:

a light source (220) adapted to produce visible light with a relatively narrow wavelength spectrum; and

a wavelength selective mirror surface (230) adapted to reflect light within the relatively narrow wavelength spectrum, and permit transmission of a predominance of electromagnetic energy representing visible light of other wavelengths, wherein the mirror surface (230) is arranged relative the light source (220) such that the light spot (320) occurs in the user's visual field (240) when aiming at the target (310).

14. (currently amended) A fire simulation means (200) according to ~~any one of the claims 12 or 13,~~ claim 12, ~~characterized in that~~ wherein the light projecting means (210-230) and the laser unit (260) are calibrated to one another such that the light

spot (320) indicates a point to which the at least one light pulse ( $P_L$ ) is transmitted.

15. (currently amended) A fire simulation means (200) according to ~~any one of the claims 12–14, characterized in that~~ claim 12, wherein it is adapted to be integrated into a standard sight means of the weapon (400) adapted for aiming live bullets.

16. (currently amended) A fire simulation means (200) according to ~~any one of the claims 12–14, characterized in that~~ claim 12, wherein it is adapted to represent an additional sight means to any standard sight means of the weapon (400) for aiming live bullets.